



Traffic Engineering

APPROVED PRODUCTS LIST

**TRAFFIC SIGNALS AND HIGHWAY
LIGHTING EQUIPMENT**

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

TRAFFIC SIGNALS AND HIGHWAY LIGHTING EQUIPMENT

I. GENERAL

This Approved Products List (APL) is based on equipment meeting department specifications and being tested for the specified test period with satisfactory performance. All models shall conform to the latest revision of the Missouri Standard Specifications for Highway Construction unless otherwise indicated. The models indicated on the list are approved, but are subject to final field inspection before acceptance.

The department frequently tests new products and equipment for traffic signals and highway lighting. These new products may be installed on a construction project, purchased on parts orders or with controller orders. Vendors may also submit items, at no cost to the department, for the test period. Only a limited number of units will be accepted for test statewide until an item is added to the Approved Products List. A vendor wishing to initiate a test on a new product shall submit a Product Evaluation Request Form - Signal and Lighting Equipment. Copies of this form can be obtained from our website at www.modot.state.mo.us or contact MoDOT Traffic Engineering. Minor model changes do not require an evaluation period, although the vendor shall submit specification sheets and a sample of the product for the Department to inspect.

All equipment evaluations are coordinated through MoDOT Traffic Engineering. The vendor supplying the equipment shall provide equipment specifications and a certification that the equipment meets department specifications before the test is performed. The equipment is tested for the period specified on the APL. Products that are not performing satisfactorily will be replaced with an approved product if the vendor cannot provide timely correction of the problem or if unsatisfactory operation of the intersection results.

If a vendor is proposing a product that does not meet department specifications, an explanation of why the product meets or exceeds the current specifications must be provided by the vendor in writing to Traffic Engineering. If approved, the product may be tested for the specified period as described above. If the product is satisfactory, the Department will consider a revision to the applicable specifications. Products will not be added to the Approved Products List that do not meet department specifications.

Products on the APL shall continue to perform satisfactorily. In addition, the vendors shall support the products. Products not performing as required or not supported are subject to removal from the APL.

Grounds for removal of products include but are not limited to:

- Significant change in product specifications or design without notification to the department.

- Failure to correct or replace products that are defective in manufacturing or workmanship.

- Repeated patterns of malfunctions of a product not adequately corrected by the vendor.

- Unreasonable pricing of repair parts or repair work. Repair work not completed in a reasonable time frame.

- Excessive delivery times for new purchases or replacement parts.

Changes in standard specifications may also necessitate removal of specific products from the APL. If this occurs, there will be a grace period where the product will be retained on the list after the specifications are changed. However the product will be removed from the list if it is not revised to meet specifications.

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II. TRAFFIC SIGNAL EQUIPMENT

All traffic signal equipment requires a one-year evaluation period.

CONTROLLERS

NEMA CONTROLLERS

	MODEL
Eagle	EPAC Genesis M40
Econolite	ASC/2-2100
Multisonic	820A
Peek	3000
Traffic Control Technologies (TCT)	LMD-8000

NEMA ON-STREET MASTER CONTROLLER

	MODEL
Eagle	MARC 360
Econolite	KMC-10,000
Econolite	ASC/2M

SOLID STATE PRETIMED CONTROLLERS (ALL TYPES)

	MODEL
Eagle	EPIC Series
Traffic Control Technologies (TCT)	LMD 40 Series

170 CONTROLLERS

	MODEL
Eagle	170E
McCain	170E
Safetran	170E
Signal Control	170E

CABINETS AND BACK PANELS (NEMA & S.S. PRETIMED)

NOTE: Cabinets and Back panels that meet MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide a model that meets specifications and complete a satisfactory one-year evaluation as described above to be added to the list.

NEMA CABINET AND BACK PANEL ASSEMBLIES

Control Technology
Eagle
Econolite
Henke/Bison
IDC/Gibbons

SOLID STATE PRETIMED CABINET AND BACK PANEL ASSEMBLIES

Eagle

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CABINETS AND RACKS (TYPE 170 CONTROLLERS)

NOTE: Cabinets and Racks that meet MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide a model that meets specifications and complete a satisfactory one-year evaluation as described above to be added to the list.

332 AND 336S CABINET AND RACK ASSEMBLIES

McCain
Safetran
Signal Control

CONFLICT MONITORS

NEMA CONFLICT MONITORS

MODEL

Eberle Design Incorporated (EDI)	NSM-6
Eberle Design Incorporated (EDI)	NSM-12
Eberle Design Incorporated (EDI)	SSM-12LE
Naztec, Incorporated	NM512
Peek/Transyt	1200
Perfect Distribution & Control (PDC)	CM82-03
Perfect Distribution & Control (PDC)	CM82-06
Perfect Distribution & Control (PDC)	CM82-12
Solid State Devices	NM-6
Solid State Devices	NM-12
Solid State Devices	LCD-6P
Solid State Devices	LCD-12P
Traffic Control Technologies (TCT)	LNM Series

170 CONFLICT MONITORS

MODEL

Eberle Design Incorporated (EDI)	210E
Solid State Devices	210P

CABINET ACCESSORIES

AUXILIARY TIME CLOCK

MODEL

Eltec	NTC-17E
Eltec	TC-14
RTC	AP41

EXTERNAL T.B.C. COORDINATORS

MODEL

Eltec	TC-14
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FLASHERS

MODEL

Eberle Design Incorporated (EDI)	810
Perfect Distribution & Control (PDC)	SSF-86
Perfect Distribution & Control (PDC)	SSF-88
Solid State Devices	204D
TSC	204-15

FLASH TRANSFER RELAYS

MODEL

AMECO	136-4962
Magnacraft	W21ACPXD-5
Mid-Tex	136-62T-3A1
Perfect Distribution & Control (PDC)	FTR 91

LOAD SWITCHES

MODEL

Eberle Design Incorporated (EDI)	510
Perfect Distribution & Control (PDC)	SSS-86
Perfect Distribution & Control (PDC)	SSS-88
Perfect Distribution & Control (PDC)	200
Solid State Devices	200D
Traffic Control Technologies (TCT)	SSS-86
TSC	200 CUBE

ISOLATORS (170'S only)

MODEL

Detector Systems	242
Detector Systems	252
GDI	242
GDI	252
Perfect Distribution & Control (PDC)	242
Perfect Distribution & Control (PDC)	252
Safetran	242
Safetran	252

SURGE PROTECTORS

MODEL

Edco	SHA 1210
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TONE RECEIVERS

MODEL

Iniven	IR30M-05-30
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TONE TRANSMITTERS

MODEL

Iniven	IT30
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MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

DETECTORS

MICROWAVE DETECTORS

Microwave Sensors
Electronic Integrated Systems, Inc. (EIS)

MODEL

TC-26B
RTMS X-2

MICROLOOP, PROBE

3M

MODEL

Canoga 701

PEDESTRIAN PUSH BUTTONS

Pelco
Pelco

MODEL

SE-2000-00 (Round Pole Mount)
SE-2001-00 (Flat Mount)

POWER SUPPLY FOR CARD RACK DETECTORS - NEMA

Detector Systems
ICC
PGK

MODEL

205
PS24
PS-1.2

SINGLE CHANNEL SHELF MOUNT DETECTORS, STANDARD

Detector Systems
Eberle Design Incorporated (EDI)
Sarasota

MODEL

910
LM301
535B/MS

SINGLE CHANNEL SHELF MOUNT DETECTORS, TIME DELAY

Detector Systems
Eberle Design Incorporated (EDI)
Sarasota

MODEL

913
LM301T
535T/MS

ULTRASONIC DETECTORS

Microwave Sensors

MODEL

TC-30

2-CHANNEL CARD RACK COUNTING DETECTORS, DUAL OUTPUT

Eberle Design Incorporated (EDI)

LM632

2-CHANNEL CARD RACK COUNTING DETECTORS, SINGLE OUTPUT PULSE MODE

Detector Systems
Eberle Design Incorporated (EDI)
ICC
Reno A & E
Reno A & E

MODEL

222DR
1203D
S27B
C
G

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Sarasota
Sarasota

222-GP5
222 GP6

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2-CHANNEL CARD RACK DETECTORS, STANDARD

MODEL

Detector Systems
Eberle Design Incorporated (EDI)
ICC
Reno A & E
Reno A & E
Sarasota
Sarasota

222DR
LM602
S27B
C
G
222-GP5
222 GP6

2-CHANNEL CARD RACK DETECTORS, TIME DELAY

MODEL

3M
Detector Systems
Eberle Design Incorporated (EDI)
Sarasota
Sarasota

Canoga C800 Series
262CR
LM602T
222T-GP5
222T GP6

SIGNAL HEADS

BACKPLATES

MODEL

Neodesia Plastics
Pelco
Traffic Parts

BP Series
BK-100x Series
44xx Series

HARDWARE

NOTE: Hardware that meets MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide equipment that meets specifications and complete a satisfactory six-month evaluation as described above to be added to the list.

Pelco
Reliable 3/8" Strandvise
Reliable 1/4" Strandvise

5202
5200

LOUVERS

MODEL

Pelco

GPL

POLYCARBONATE SIDE-MOUNT BRACKETS WITH RELATED HARDWARE

MODEL

Component Products

Any

SIGNAL HEADS - ALUMINUM CONVENTIONAL

MODEL

Automatic/Eagle
McCain
Safetrans/IDC

SIG Series
MTSA Series
ST Series

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Traffic Control Technologies (TCT)

HSS Series

SIGNAL HEADS - ALUMINUM PEDESTRIAN

MODEL

Automatic/Eagle

SIG Series

SIGNAL HEADS - OPTICALLY LIMITED

MODEL

3M

HVS 131 Series

McCain

HPTS Series

SIGNAL HEADS - POLY CONVENTIONAL

MODEL

Chapel Hill

SIG-TPB-305-CTP-EVN-0

Eagle

SA Series

IDC/Safetrans

LT Series

McCain

MTSTP Series

Traffic Control Technologies (TCT)

PSS Series

SIGNAL HEADS - POLY PEDESTRIAN

MODEL

Chapel Hill

SIG-PPB-305-TTP-EVN-0

Eagle

SA Series

McCain

MTSP Series

Traffic Control Technologies (TCT)

PSS Series

SIGNAL LENSES-GLASS

MODEL

Eagle

PBL Series

Kopp

Any

McCain

MSP Series

POSTS AND MAST ARMS

Note: Posts and Mast Arms do not require an evaluation period. Posts and Mast Arms shall be fabricated in accordance with MoDOT specifications and standards. Posts and Mast Arms shall be pre-approved as required by the MoDOT standards and specifications to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Posts and Mast Arms are subject to field inspection before acceptance.

STEEL POSTS AND MAST ARMS

DRAWING NUMBER

Ameron

MO9811 - Rev. 5 (Type C)

Ameron

MO9812 - Rev. 5 (Type CL)

Union Metals

30443-B202 - Rev. 12 (Types C, CL, B & BL)

Valmont

DB00408 - Rev. C (Types C, CL, B & BL)

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MISCELLANEOUS

LOOP SEALANTS

	MODEL
3M	5000
Bondo	575
Bondo	P606
Chemque	290S
Chemque	296-06
Durant Paints	Stat-A-Flex Polyseal

PEDESTAL BASES

	MODEL
Component Products	CP1-BAS-1
Pelco	PB5336
Pelco	PB5340
Traffic Parts	TP 289 X

SPLICE KITS (DETECTOR LEAD-IN)

	MODEL
3M	DBY Series

SIGNAL BULBS

LIGHT EMITTING DIODES (LED)

	MODEL
Dialight	433-1210-003 (Red Ball)
Dialight	432-2270-001 (Green Ball)
GELcore/Ecolux	D12RA4-4 (Red Ball)
GELcore/Ecolux	D12GA4-4 (Green Ball)

OPTICALLY LIMITED

	MODEL
3M	78-8008-7703-3
General Electric (GE)	150PAR46/TS
Philips	150PAR46/TS

STANDARD - 1260 LUMEN (8 inch indications)

	MODEL
Sylvania	116A21TS8M

STANDARD - 1750 LUMEN (12 inch indications)

	MODEL
Philips	K135A21/TS/EW
Sylvania	135A21/TS/8M/SS

VIDEO DETECTION SYSTEMS

VIDEO DETECTOR

MODEL

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Econolite
Iteris
Traficon

Autoscope 2004
Vantage One
VIP3

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III. HIGHWAY LIGHTING

All highway lighting equipment require a one-year evaluation period except for items noted requiring a six-month evaluation.

LIGHTING POLES

Note: Poles do not require an evaluation period. Poles shall be fabricated in accordance with MoDOT specifications and standards. They shall be pre-approved as required by the MoDOT standards and specifications in order to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Lighting poles are subject to field inspection before acceptance.

STEEL POLES

Ameron International
Ameron International
Ameron International
Ameron International
Ameron International
Union Metals
Union Metals
Union Metals
Union Metals
Valmont
Valmont

DRAWING NUMBER

MO98AT2 – Rev. 4 (Type AT45)
MO98AT3 – Rev. 4 (Type AT45)
MO98AT4 – Rev. 3 (Type AT30)
MO98B2 – Rev. 3 (Type B45 & MB45)
MO98B4 – Rev. 2 (Type B30)
71019-B6 - Rev. 7 (Type AT45)
71019-B7 - Rev. 4 (Types B45 & MB45)
71020-B2 - Rev. 5 (Type AT30)
71020-B3 - Rev. 4 (Type B30)
DB00019 – Rev. H (Types AT30 & B30)
DB00020 – Rev. J (Types AT45 & MB45)

LUMINAIRES

NOTE: Luminaires will not be furnished with photoelectric cells. Receptacles will have a shorting plug in place of cell. Multi-tap ballast for 120 Volt and 240 Volt fixtures is permissible.

BRACKET ARM MOUNT - 150 WATT

American
American Electric Lighting
Crouse-Hinds/Cooper
Crouse-Hinds/Cooper
General Electric (GE)
Holophane

MODEL

114 Series
Durastar 2000, Series 30
OVZ Series
OVX Series
M2RR Series
Mongoose Series

BRACKET ARM MOUNT - 250 WATT

American
American Electric Lighting
Crouse-Hinds/Cooper
Crouse-Hinds/Cooper
General Electric (GE)
Holophane

MODEL

114 Series
Durastar 2000, Series 30
OVZ Series
OVX Series
M2RR Series
Mongoose Series

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BRACKET ARM MOUNT - 400 WATT

MODEL

American
American Electric Lighting
Crouse-Hinds/Cooper
General Electric (GE)
Holophane

126 Series
Durastar 2000, Series 30
OVX Series
M4RR Series
Mongoose Series

HIGH MAST LIGHTING

MODEL

NOTE: *High mast lighting is custom designed for the location. Manufacturer's series are considered pre-approved.*

Fixtures from the following

Cooper
General Electric (GE)
Holophane

HMC Series
HMA Series
HMS Series

POLE TOP MOUNTING

MODEL

American
American Electric Lighting
Holophane
Holophane

Interstate II Series
Durastar 2000, Series 30
HL2A Series
Mongoose Series

SIGN LIGHTING - 250 WATT

MODEL

General Electric (GE)
Guth
Holophane
Holophane

V2FN Series
B17632 Series
PANL Series
SNVW Series

SIGN LIGHTING - 400 WATT

MODEL

Holophane
Holophane

PANL Series
SNVW Series

UNDERPASS (WALLPACKS)

MODEL

American
General Electric (GE)
Holophane
Holophane
Hubbell

582 Series
W4L Series
MDWP Series
WL2K Series
PVL-0150S-118 (Multi-tap)

CONTROL EQUIPMENT

CONTACTORS-ELECTROMECHANICAL

MODEL

Square D
Westinghouse/Cutler-Hammer

Type S
A202 Series

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CONTACTORS-MERCURY

Dayton
Magnecraft

MODEL

6A/6X Series
WM Series

CONTROL CABINETS

NOTE: Cabinets that meet MoDOT specifications from the following manufacturers will be accepted. All other manufacturers must provide a model that meets specifications and complete a satisfactory six-month evaluation as described above to be added to the list.

Cleveland Switchboard
Coxline
Hoffman
Shallbetter

LIGHTNING ARRESTER

Delta
General Electric Tranquell
Square D

MODEL

LA 600 Series
9L15ECB001
SDSA 1175

MOUNTING SOCKET FOR PHOTOELECTRIC CONTROL

NOTE: Mounting sockets require a six-month evaluation.

American
Fischer-Pierce
General Electric (GE)

MODEL

PBC
S476-71
MB-PECTL

PAD MOUNTED LIGHTING CONTROL STATION

Myers
Pacific Utility Products
Tesco
Tesco

MODEL

MEUGLA -M100-MDOT
USP -M100-100-MO
28-101-5 Type III BF
28-102F

PHOTOELECTRIC CONTROL

ALR
American
DTL
Fischer-Pierce
General Electric (GE)
ITT
Precision

MODEL

SST Series
8060-4F
D120-1.0-ST
7700 Series
PEC1TL
SAT-15
P26275

TYPE A CIRCUIT BREAKERS

Square D
Westinghouse/Cutler-Hammer
Westinghouse/Cutler-Hammer

MODEL

FAL Series
EHD Series (1-Pole)
FDB Series (2-Pole)

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MISCELLANEOUS

AVIATION LIGHTING

Hughey & Philips

MODEL

KG114

FUSED SLIP CONNECTORS

MODEL

NOTE: Slip connectors require a six-month evaluation.

Buss

HEB-JWRYC

NAVIGATION LIGHTING

MODEL

Tideland

ML-140 with TF-3AC Lamp
Changer

SPLICE KITS

3M

82A1 (Single)

3M

82A2 (Single)

3M

82B1 (Three Way)

3M

82B2 (Three Way)

TRANSFORMER BASES

MODEL

Akron Foundry

TB1-17H (for AT30)

Akron Foundry

TB3-17H (for AT45)

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IV. POWER SUPPLY EQUIPMENT AND PULL BOXES

All items require a six-month evaluation period.

MAIN SERVICE DISCONNECT ENCLOSURE WITH SAFETY SWITCH (NEMA 4)

General Electric (GE)
Square D
Westinghouse

MODEL

TE 100 CS
FA-100-DS Series E2
WFDN 100

PREFORMED PULL BOX-CLASS 1

Associated Plastics/New Basis
Associated Plastics/New Basis
CDR
Strongwell/Quazite
Synertech

MODEL

PC1730DP
FC1730
A12-1730 Series
PG1730BA Series
S1730B26AA

PREFORMED PULL BOX-CLASS 2

Associated Plastics/New Basis
CDR
Strongwell/Quazite
Synertech

MODEL

FC2436
A12-2436 Series
PG2436BA Series
S2436B26AA

PREFORMED PULL BOX-CLASS 3

Associated Plastics/New Basis
CDR
Strongwell/Quazite
Synertech

MODEL

FC3048
A12-3048 Series
PG3048BA Series
S3048B36AA